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SCHOOL AND SOCIETY

Volume XIII SATURDAY, JANUARY 8, 1921 Number 315

A COMPARISON OF THREE METHODS FOR MAKING THE INITIAL SELECTION OF PRESUMPTIVE MENTAL DEFECTIVES[1]

DURING the first three years of the St. Louis psycho-educational clinic the initiative in the selection of assumed mental defectives for examination in the psycho-educational clinic was taken by the schools. This system did not prove to be very successful, chiefly for two reasons. First, some schools never reported a single child for examination, or reported entirely too few. In 1914–15, 31 per cent. of the elementary schools did not refer a single case, while the corresponding figures in 1915–16 and 1916–17 were 21.1 per cent. and 15.1 per cent. Second, some schools referred too many pupils. To be sure, these children were in need of examination because of various conditions other than feeble-mindedness, such as backwardness, speech defectiveness, delinquency, neuropsychic instabilities, special disabilities in reading or number, or sensory defects. But the limited time available at the clinic made it necessary to restrict the examinations to the elementary school children who were most deficient in intelligence. Obviously had certain schools been permitted to refer all types of problem pupils in optimal numbers the clinic would have found it impossible to examine any children at all from some schools. Because of these difficulties—and various other minor difficulties which can not be recounted here—a plan was adopted in September, 1917, whereby the responsibility for the initiation of clinic examinations was divided between the schools and the clinic. According to this plan the elementary schools were required to report twice annually, under regulations elsewhere described,[2] the one per cent. of the pupils who were regarded as the most seriously deficient mentally. From the names thus submitted the director of the clinic selects for clinical examination and investigation the children who appear from the facts reported to be the most deficient in intelligence, or who appear likely candidates for the special schools for mental defectives. Under this plan the clinic was given authority for the first time to designate the pupils who should be examined.

The comparative success of this method from the standpoint of locating the most deficient children or the presumptive candidates for the special schools is unquestionable.[3] The percentage of examinees diagnosed as feeble-minded and borderline during the last three years was 74.4 per cent. or an increase of 26.6 per cent over the figure for the preceding three years.

But the question naturally presents itself

[1] Delivered, in abstract, before the Section of Clinical Psychology of the American Psychological Association, Chicago, December, 1920.

[2] See Report of the Psycho-Educational Clinic and Special Schools, in the annual report of the superintendent of instruction in the city of St. Louis for 1918–1919, p. 76 f. The form (13-H) for the reports showing the data submitted is reproduced on p. 79. Also see "The Problems Confronting a Psycho-Educational Clinic in a Large Municipality," *Mental Hygiene*, 1920, 103 ff.

[3] The success of the method has been pointed out in some detail, together with some of its limitations, in the above references.

why we have not employed group intelligence tests as an aid in making the initial selection of cases for the individual examinations. The first reason concerns the traditions of the St. Louis schools. The system of school administration in effect, at least in theory, in St. Louis vests the responsibility for the administration of the school on the principal, who is given much freedom in the internal organization of the work. In theory the principals are required to take the initiative in the proper classification and placement of their pupils. In the second place, when the St. Louis clinic was organized there was practically only one system of group intelligence tests available, namely, a series of tests arranged by the writer for the Oral Hygiene Committee of the National Dental Association in 1910 and somewhat enlarged the following year for the examination of normal and epileptic school children.[4] We made a brief study of the use of these group tests in 1914 as an aid in the initial selection of cases, but found the tests too difficult for the young mental subnormals whom we desired to reach, and also too difficult for the normal kindergarten and first grade, and even the second-grade pupils. These are the chief grades in which the feeble-minded will be found in schools which promote according to the individual competency of the pupils. No systems of group tests have been available until recently which even claimed to be applicable to normal children under the third or fourth grade.

In spite of the demonstrated success of our present method of locating mental defectives it seemed advisable to determine whether the employment of group intelligence tests would not result in further improvement, especially in view of the fact that group testing has undergone considerable refinement and improvement during the last few years, and has become very popular. In order to make such a test it seemed preferable to use a series of tests which had already been extensively used, tested, and standardized, at least to some extent, rather than devise a new series. The Pressey Primer Scale seemed to meet these conditions. Moreover, it can be easily and rapidly administered to young literates as well as illiterates, while the test sheets are comparatively inexpensive.

The tests were given to from 19 to 47 children in 13 schools. The principals were requested to select for the test the children who were judged to be the most deficient in intelligence, but not to include any one who could do satisfactory third-grade work. So far as possible the children were seated in the test in alternate rows, to lessen the opportunities for copying. It was found that many of the younger children were inclined to seek cues from their neighbors. All the testing was done by Miss Lucy C. Elliott. The Pressey directions were scrupulously followed, except that the Pressey introductory statement was supplemented by the following introduction and instructions:

> I have a set of games for you to do. After I tell you to start you must begin at *once* and do your *very best*. You must keep right on until I tell you to stop, or until you are done. You must not look at the papers of other pupils. Look at your own paper. You must not talk or ask any questions after the test starts, and you must not leave the room until we are through.
>
> Make sure that every one looks or pays attention when told to do so. If they do not, say: "Everybody, look here" or "everybody listen."

[4] Most of these tests have been published by the C. H. Stoelting Co., but the complete study, finished years ago, of the results has not yet been published because of the printing situation. The results so far published appear in "Experimental Oral Euthenics," *Dental Cosmos*, 1912, 404 ff and 545 ff, and "Problems of Subnormality," 1917, Chapter V.

In test I., first group, say: "Look, everybody right here" (tapping the paper at the appropriate place). Repeat slowly, if it seems necessary, the early part of the instructions. Be sure the child has the appropriate page at the beginning of each test.

Be sure to record pupils who were inattentive or stopped or made no effort in the different tests. If time is accidentally exceeded make note of it.

If visitors are present ask them to stay in the rear and to be careful not to attract or distract the children.

Moreover, at the end of the instructions for each test the examiner added: "go ahead!" while at the end of the time limit the injunction was: "Stop, hold up your pencils."

Three hundred and eighty-two children were given the group tests. Seventy-seven of those making the lowest total score in the four tests were selected by me for the individual examination[5] in the clinic, the Stanford-Binet being used for the general intelligence rating. It was possible to examine 68 of these pupils. Seven others were examined at the request of the principals.[6] Before the group tests were given we had received from these schools the regular preliminary reports (13-H) due at the clinic on the pupils who were regarded by the teachers and principals as the most deficient intellectually. From the records thus submitted we had checked the pupils whom we would have designated for the clinic examination had the usual procedure (13-H) been followed, in order to determine whether the same selections would result from both methods.[7] We shall here confine the analysis to the subjects who were given both the group test (Pressey) and Binet.

[5] Physical, mental, development, pedagogical and sociological.

[6] Exclusive of four more who were not given the Pressey. It happened that 15 who were given the Pressey had already been examined in the clinic.

[7] Thirty-five were thus checked, of whom 25 took the group test. Thirteen were selected on the basis of the low group score for the Binet test, but only nine could be examined. This is too small a number on which to base any deductions.

CORRELATION OF THE GROUP SCORES WITH THE BINET SCORES

(1) *By the Ayres Abbreviated Method*

The coefficient of correlation (R) was first computed by the Ayres method,[8] arranging the subjects in two series. In the first series the cases were arranged according to ascending I.Q. in the group test, and the correlations were worked out (a) between the Binet I.Q. and the group (Pressey) I.Q.[9] ($R = .20$[10]); and (b) between the absolute score in the group test and the Binet I.Q. ($R = .03$[10]); (c) between the Binet absolute score (intelligence age in months) and the group absolute—the raw score ($R = .73$).

In the second series the cases were arranged according to chronological ages, and the correlations computed between the

[8] Ayres, Leonard P., "A Shorter Method for Computing the Coefficient of Correlation," *Journal of Educational Research*, March, 1920.

[9] The I.Q. in the group test was obtained by dividing the chronological age of the child into the group-test score, the group-test score first being divided by 12 so that the division might be made with the aid of the Reed I.Q. Scale. Apparently this scale has not been accurately constructed in all regions. Thus my scale gives an I.Q. of 122.3 for the chronological age of 4 years and six months and the intelligence age of five years and seven months. The correct answer is 124. We suggest that someone determine whether errors of this type exist in other Reed scales, and how numerous they may be. Errors such as these would render the scale valueless.

[10] The R's obtained by the Ayres' method in this series were so obviously wrong that we became suspicious of the reliability of the method, and therefore requested three psychologists to check over the results. The recheck did not reveal any significant errors except in the series based on the absolute scores. We have not had time to make a second recheck of these two series.

I.Q.'s in the group and individual (Binet) tests, and the group and individual scores. The age correlations appear in Table I., except for ages eleven and thirteen, in which there were only 4 and 3 cases, respectively.

TABLE I

Age	No.	Between the I.Q.'s, R	Between the Absolute Scores, R
6	12	.56	.58
7	19	.25	.55
8	15	.68	.67
9	16	.68	.66
10	11	.57	.62
12	10	.13	.56

In order to determine the reliability of the Ayres method, the correlations were computed by two of the older, well-recognized methods.

(2) *By the Pearson Product-Moment's and Spearman's Rank Difference Method*

The correlation was worked out only between the absolute scores in the two scales for the entire series of cases arranged according to ascending I.Q. in the group test. The correlation between the absolute scores is probably the most reliable.

The R obtained by the Pearson formula was .73 by the long method and .67 by the short method, while .80 was obtained by the Spearman method. The R obtained by the complete product-moment's method corresponds exactly with the Ayres result, and may be regarded as distinctly high,[11] in view of the following facts.

First, 12 of the children examined were only six and 19 only seven years of age. Of these children 4 were diagnosed as normal, on the basis of the clinical examination, 10 as backward, 12 as borderline, and 5 as feeble-minded. According to the group test 6 of these had absolutely zero intelligence capacity in terms of the scale, scoring zero, while 10 evinced almost zero capacity in the scale, scoring only from 2 to 4 points. Of those making no score, two were diagnosed as imbeciles, and the others as borderline. Of the others two each were diagnosed as potential morons and borderline, four as backward and two as normal. While these pupils failed almost entirely in the group test, in the individual examination they made the following Binet I.Q.'s: one each .44, .60, .62 and .63, four .73, one each .74, .77, .79, .81, .82, .87, .96 and 1.02.

It is undoubtedly true that the group intelligence tests, as now constructed, are too difficult for normal five- and six-year-old children, and even seven-year-olds can make only small scores. But even if these tests were adapted to the capacities of these young children they would still give a more accurate measure of older children because young children have been less well trained to apply themselves continuously, to put forth and maintain maximal effort, and to ignore distracting stimuli. They do not feel the same moral compulsion to follow commands as do the older children. They tend to regard the test as a joke, or as fun or play to be indulged in according to whim or fancy. I have observed younger children in other group tests score absolute zero not because they failed to understand or do the test but because they did not make the necessary pencil check on the test blank. In the individual examinations there is little difficulty in securing responses from children who make little or no effort in group tests. In the individual examination the child's interest and atten-

[11] Thorndike regards a correlation of .65 as all that may be expected between a good intelligence examination and success in academic and professional education: "Psychological and Educational Tests," *American Physical Education Review*, 1920, 228 f.

tion can be aroused by a skilled examiner, and he can be "held to the job" in the face of more alluring stimuli. Moreover, there are no group tests available which are suitable for children of the kindergarten or sub-kindergarten level, while some tests in the available scales are not well suited for the normal six-year-old or are not effectively arranged. Thus, to take the Pressey Primer Scale, the least interesting and hardest test is given first, and one of the most interesting tests is given last. Some of the children who failed utterly on the dot pattern test probably would have scored if it had been placed third or fourth. The serial arrangement of tests is often of considerable importance. It would be better to begin the Pressey with test IV. or II. and place the other tests toward the end.

Second, the long time limit of the group tests enables some children—even when the selection of pupils is rigidly limited, as was ours, to the most backward—to finish too early, in consequence of which the test score received is too low. It was quite obvious that a number of our pupils could not do themselves justice because of this defect in the scale. A group intelligence scale is not a satisfactory measuring device unless the conditions for the administration of the tests are such that the poorest pupil in the group for which the scale is designed can make some score, while the best pupils will be unable to make a perfect score.

These factors partly explain why it would be impossible to expect a perfect correlation between the Pressey Primer and the Binet scales, even if the scales were perfect as measuring instruments of intelligence. That the correlation was not higher, high as it was, may be due to imperfections in both scales. We have not used the Pressey scale long enough to justify any detailed criticism. But the norms available are based upon more subjects than are the Stanford norms. It has been frequently repeated that the Stanford scale and the norms based upon the scale, have been "demonstrated" experimentally to be accurate. We have before[12] pointed out that such "demonstration" does not, in truth, exist—if demonstration is to mean anything but a loose figure of speech—and that there are obvious imperfections in the inner constitution of the scale and in the administrative procedure of the individual tests. These criticisms have been met, if met at all, by the general statement that the Stanford scale has been standardized on the basis of a large number of cases—"many thousands" according to one statement—and that the accuracy of the norms can not be increased by testing more cases. But the simple fact remains that the norms are based upon a very limited number of unselected children in each age. The number exceeded 100 in only two ages. In a third of the ages the number did not exceed 46. In age five only 54 children were tested, in age 15 only 46, in age four only 17, in age 16 only 14 (or possibly 21), and in age three only 10. The psychological testing in the army sometimes revealed significant variations in intelligence distributions between different regiments and camps even when the testing was based upon many thousands of individuals in each unit. The army results show that the accuracy of the Stanford norms which are based on an average of only 71 children in each age-step, from 3 to 16, has been assumed, rather than demonstrated, the assumption being that accurate national norms can be secured by testing a few children in each chronological age from one section of the

[12] "Preliminary Impressions of the Stanford Revision of the Binet-Simon Scale," Psychological Clinic, 1918, 1 ff.

country. We should not again call attention to this unwarranted assumption if it were not for the extensive use which is being made of the Stanford scale throughout the country, and the implicit confidence which has been placed in the accuracy of the Stanford norms and diagnostic criteria for the practical educational classification and social disposition of cases. Porteus[13] has recently called attention to the fact that many of the Stanford age norms are too difficult (above age VIII.), confirming the conclusion we reached three years ago. During this interval we have used the scale daily in practical clinical work. We have had occasion to follow the scholastic and industrial records of many pupils who have been tested by the Stanford and 1908 and 1911 scales and who have ranged in I.Q. above 70 by the 1911 scale and between 60 and 69 by the Stanford, and who would thus have to be classed as "feeble-minded" according to the Stanford criteria. The records have shown pretty conclusively that it would be pure academic dogmatism to class many of these children as feeble-minded. Were space available we could present the detailed records of scores of cases. The scholastic record of one pupil must suffice.

F. E., first examined at the age of 9.66, intelligence age by the 1908 scale 7.8, I.Q. 80, and by the 1911 scale 7.6, I.Q. 78.6. Diagnosed as very backward and recommended to an ungraded class. But no such class was available, hence she was referred again to the clinic at the age of 11.83, when she tested 8 by the Stanford scale, having an I.Q. of 67.6. She was assigned to a special school. The last report from this school, when she was aged 14.25, indicated that she had reached fourth grade in writing, spelling, reading and handwork, and III.-2 in arithmetic. She is timid in disposition and is inclined to be reticent, but she shows good judgment and excellent self-control. Her teachers say she is not feeble-minded and I concur in this opinion, in spite of the low Stanford I.Q.

The Stanford scale ought to be used as the basis for a thorough revision and restandardization on the basis of many thousands of subjects from different parts of the country if it is to continue in use for the purpose of making practical diagnoses. But this revision should be made by a committee of psychologists serving without remuneration (but having available a fund with which to secure paid testers for carrying out the detail work) and receiving no income from the sale of the scales, which should be made available at a small profit above the actual cost. This would remove the incentive for the premature publication of hastily constructed scales. After all, it is the thorough execution of the extensive routine detail work in which there is little apparent glory to incite individual effort, which counts in the construction of satisfactory test scales of intelligence. Unless this suggestion is followed we shall probably have as many Binet revisions in the next decade as we have had in the decade just ended. Most of the revisions of the past decade have been discarded. On the basis of the imperfect scales of the past many erroneous diagnoses have been made of children and adults, in consequence of which many have been improperly assigned to classes or institutions for the feeble-minded. Even now we have three editions of the Stanford-Binet: the original 1916 edition, "The Measurement of Intelligence;" the 1919 Army Guide, and the 1920 Terman Condensed Guide, which differ only in a few details (both of which follow the gen-

[13] Porteus, S. D., "Condensed Guide to the Binet Tests," *Training School Bulletin*, 1920, 1 ff. If the intelligence age-classification of the men examined in the army is based upon the Stanford scale, it evidently shares the inaccuracy of the Stanford norms. The actual ratings given are probably too low.

eral plan of the writer's condensed guide[14]), but which contain a considerable number of minor omissions, additions or changes in the administrative directions, and a number of modifications which may significantly alter the responses in certain tests; and the Porteus 1919 version, in which various more or less significant changes have been introduced. Assuming that these different versions are in use, it is evident that we do not now, in strictness, have one uniform, standardized Stanford-Binet procedure.[15]

The time seems ripe for a thorough re-standardizing of the Binet scale, which shall include a searching revision of the individual tests and the testing procedure. It is evident, however, from the high correlation obtained that the Pressey and Binet scales test pretty much the same mental qualities or functions, whatever they may be called or however classified (*e.g.*, as "general intelligence").

But do the group tests enable us to select mental defectives more efficiently than we are able to do from the examination of our 13-H reports on the most backward pupils? We can not determine this by complicated mathematical formulas, such as those involved in the computation of coefficients of correlation (which have undergone various revisions and the absolute reliability of which has been questioned). But we can determine it by the simple, direct method of comparing the average Binet I.Q. ratings earned, and the diagnoses which were actually made of the cases selected on the basis of the group intelligence tests and of the cases selected on the basis of the data reported on our Form 13-H.

In Table II. we give the diagnoses (based on the individual examinations in each case), first, of all the 13-H selections, *i.e.*, the cases selected during the year on the basis of the data supplied by the teachers and principals; second, of the cases making the lowest scores in the group test; third, of the cases making the highest group scores; and, fourth, of all the cases who were given both the group and the clinical examination.

TABLE II

Diagnoses of Cases Given Individual Examinations

	13-H Selections		Low Pressey Score Cases		Higher Pressey Score Cases		All Pressey Cases	
	No.	%	No.	%	No.	%	No.	%
Normal	4	1.39	2	3.27	5	20.8	6	6.6
Retarded	3	1.04						
Backward	54	18.79	14	22.94	9	37.5	28	31.1
Deferred diagnosis	2	.69						
Borderline	92	32.01	24	39.33	10	41.6	33	36.6
Potential feebleminded	19	6.61	5	8.19			7	7.7
(Borderline and potential feebleminded),....	111	38.62	29	47.53			40	44.4
Morons	41	14.26	7	11.47			7	7.7
Potential morons	41	14.26	7	11.47			7	7.7
Imbeciles	31	10.78	2	3.27			2	2.2
(Total feebleminded)	113	39.22	16	26.22			16	17.7

[14] The "Condensed Guide for the Adimnistration of the Stanford Adaptation of the Binet-Simon Scale," prepared by the writer in the spring of 1917, and submitted to the author and publishers of "The Measurement of Intelligence" the following June, followed the original with literal exactness. It was not intended to replace but to facilitate the use of the unwieldly original text. This Guide, of which many mimeographed copies have been made for private use, has never been published because permission was withheld by the author of "The Measurement of Intelligence."

[15] I am not now taking into account the changes which, as I have repeatedly observed, are made almost without exception by untrained teachers, and other amateurs who occasionally give the Stanford-Binet tests. Experience in training students in three universities and one teacher's college to give the Stanford-Binet has shown clearly that the average tester can not be trusted to administer the scale in strict conformity with the directions without extensive training. Moreover, the tester so trained does not retain his efficiency if he merely makes a few tests during wide intervals of time.

The significant point shown by the figures in the table is that we secured more low-grade pupils by our old method (13-H) than by means of the group tests, even if we consider only the pupils who made the lowest group-test scores. Of the pupils examined on the basis of the low group-test score, 26.2 per cent. were diagnosed as feeble-minded and 47.5 per cent. as borderline, while the corresponding figures for the cases selected on the basis of the 13-H report are 39.2 per cent. and 38.6 per cent. Combining these two categories, which will give a fairer basis of comparison, we find that the selection based upon preliminary reports made by the school staff gave us 4 per cent. more low-grade cases than the preliminary group tests.[16] The same difference is found in the I.Q.'s: the average I.Q. for the group selected on the basis of the 13-H reports was .69 as against .72 for the group selected on the basis of the low scores in the group tests. It should be remembered that the school staff made the initial selection for the group intelligence test, but they were privileged to select five or six times as many pupils as were to be reported on Form 13-H. Only four of these low grade Pressey cases equaled or slightly exceeded the tenth percentile for normal children of their age, according to the revised norms sent me by Dr. Pressey. The vast majority of the others only equaled or merely approached the tenth percentile in a lower age step, sometimes in a step four or five years below their age.

The percentile rating of the 16 diagnosed as feeble-minded was as follows: The two imbeciles, ages 6 and 7, made no score at all, while obtaining Stanford I.Q.'s of .44 and .60. Five of the potential morons, aged 6, 7, 8 and 12, ranked considerably below the tenth percentile for age six. One, a 12-year old, reached the twenty-fifth percentile for age eight (group score 56, Binet age 6-6), while one, age 9-11, exceeded the twenty-fifth percentile for age six (group score 27, Binet age 5-10). Of those diagnosed as morons, one, aged 10, exceeded the tenth percentile in age seven, three, aged 10-0, 10-4 and 12-3, reached the tenth percentile in age eight, one, aged 13-6, the twenty-fifth percentile in age eight, and two, aged 12-3 and 13-11, the median in age eight.

The raw group-test scores, group-test I.Q., Binet ages and Binet I.Q were as follows for each of the morons: (1) 40 and .27, and 8-2 and .66+; (2) 37 and .30, and 6-4 and .63+; (3) 53 and .64, and 6-4 and .63—; (4) 60 and .41, and 7-8 and .62—; (5) 43 and .34, and 6-10 and .66—; (6) 61 and .37, and 8-6 and .62; (7) 64 and .38, and 8-2 and .58+. The corresponding figures for the potential morons were as follows: (1) 7 and .07, and 4-10 and .60; (2) 56 and .39, and 6-6, and .53+; (3) 5 and .03, and 6-4, and .52; (4) 27 and .22, and 5-10, and .58+; (5) 3 and .03, and 4-2, and .63+; (6) 1 and .01, and 4.0, and .49+; and (7) 2 and .02, and 4-8, and .62.

These results indicate that there is no age percentile at present available, or a given raw score, or I.Q. in the Pressey scale which can be used as a limiting value or "dead line" of mental deficiency. This can be best shown by the range of the raw group-test scores or I.Q. found in the different diagnostic categories.

For morons of all chronological ages the group-test scores ranged from 37 to 64, a range of 27, and the I.Q.'s from .27 to .44, a range of .17. For the potential morons the scores varied from 1 to 56, a range of 55, and the I.Q.'s from .01 to .39, a range of .38. For the borderline the score range was from 0 to 74, a range of 74, and the I.Q. ranged from .0 to .61, a range of .61. For the potential feeble-minded the scores ranged from 5 to 72, a range of 67, and the I.Q.'s from .05 to .53,

[16] In the first check we only selected 39 cases with the very worst scores in the group test for the individual examination. Of these 75.4 per cent. were diagnosed as borderline and feeble-minded. This figure is still 2.4 per cent. lower than the figure for the 13-H selections. While only one of the 39 was diagnosed as normal 7 were diagnosed as merely backward. Moreover, some of the 13-H selections were made because the schools requested the examination rather than because of suspected mental deficiency.

a range of .48. For the backward the scores varied from 2 to 92, a range of 90, and the I.Q.'s from .02 to .66, a range of .64. For the normal the scores varied from 4 to 80, a range of 76, and the I.Q.'s from .04 to .79, a range of .75. Naturally the range is less for the I.Q.'s than for the raw scores.

Not only so, if we restrict the comparisons to pupils of the same chronological ages the ranges are still very great. For example: the scores for the 10-year-old morons vary from 37 to 53 (range 16) and the I.Q.'s from .30 to .44 (range .14). Among the borderline, the scores for the 7-year-olds vary from 0 to 31, and the I.Q.'s from .0 to .34; for the 8-year-olds from 0 to 45, and from .0 to .44; for the 9-year-olds from 20 to 53 (range 33) and from .18 to .47 (range .29). Among the backward the scores for the 6-year-olds varied from 2 to 7 (range 5), and the I.Q.'s from .02 to .08 (range .06); for the 7-year-olds, from 15 to 41 (range 26), and from .18 to .47 (range .29); for 8-year-olds, from .17 to .51 (range 34), and from .17 to .53 (range .36); and for the 9-year-olds from .47 to .77 (range .36); and for the 9-year-olds from .47 to .77 (range 30), and from .43 to .65 (range .22). For the normals the range for the 6-year-olds was from 4 to 16 (range 12), or from .04 to .20 (range .16); for the 7-year-olds from 4 to 5 (range .7), and from .04 to .56 (range .52), and for the eight-year-olds from 58 to 80 (range 22) and from .58 to .79 (range .21).

With such wide variations in the scores and I.Q.'s of subjects of the same diagnosis and chronological age[17] it would be hazardous to attempt to attribute any symptomatic or pathognomonic value to any particular absolute or relative score in a group test of intelligence. In fact, no one has ben able to do this even in the case of the individual intelligence scales. Every intelligence category in the classifications of all writers extends over a considerable range of intelligence ages or I.Q.'s.[18] But the range in the Pressey Primer Group test—and undoubtedly in all group intelligence tests—is much greater than the range in the Binet scale which is individually administered. Thus the range in the Binet I.Q.'s for our group of cases which were given the group tests was as follows in each category: imbeciles, from .44 to .60 (range .16); potential morons, from .49 to .63 (range .14); morons, from .58 to .66 (range .08); potential feeble-minded, from .61 to .80 (range .19); borderline, from .64 to .83 (range .19); backward, from .77 to .93 (range .16); and normal, from .94 to 1.02 (range .08). The average of the ranges of the I.Q.'s in all the categories (except for the imbeciles, which can not be compared) is 14 in the Binet scale and 50 in the group scale. The range of I.Q.'s in each category was, on the average, three and a half times as great in the group test as in the individual test (Binet).

This being the case, we should expect to find great discrepancies in the rating of individual cases by the two scales, and this proved actually to be the case. Had we followed the Pressey score we should have formed conclusions which would have been quite misleading regarding some of these children. We shall refer to some of the more obvious discrepancies, comparing the I.Q.'s of children of the same chronological age. When thus compared the I.Q.'s furnish a simple, legitimate index for comparing the relative scores obtained in the Pressey and Binet scales.

[17] We have had reasons to conclude that the I.Q. can not be used independently of the chronological age or intelligence age: "Problems of Subnormality," 1917, p .264 f. "The Value of the Intelligence Quotient for Individual Diagnosis," *Journal of Delinquency*, 1919, 109 f. See, however, the analysis of our data by Curt Rosenow, "The Stability of the Intelligence Quotient," *Journal of Delinquency*, 1920, 160 f. The number of cases considered in our *Journal of Delinquency* article is accurately given, namely, 411 (and not 649).

A 7-year-old child whose group I.Q. was .25 made an I.Q. in the individual test of .72, which was .01

[18] See discussion of this point in the article on "The Value of the Intelligence Quotient for Individual Diagnosis," as above.

less than the Binet I.Q. of three pupils whose group-test I.Q.'s were only .00 and .02. On the other hand, one pupil whose I.Q. in the group test was only .05 made a Stanford I.Q. of .80.

One 8-year-old with an I.Q. of .00 in the group test made a Binet I.Q. of .78, which is .17 more than a child making .16 in the group test, and it is .05 more than the I.Q. of a pupil who made .44 in the group test. One child who had a group I.Q. of .17 made .89 in the Binet. But another child who scored .79 in the Pressey scored .95 or only .07 higher in the Binet, a difference of .62 in the Pressey as compared with .06 in the Binet.

Of two 9-year-olds making a Binet I.Q. of .82, one scored .65 and the other .43 in the group test, a difference of .22. Another pupil with a group I.Q. of .43 scored .87 by the Binet, actually five points higher than the pupil with the I.Q. of .65 in the group test.

Three 10-year-olds whose I.Q.'s were .35, .48 and .63 in the group test, scored .86, .88 and .85 in the Binet. The group I.Q.'s differ by 28 points, but the Binet by only 3 points. The one who made the highest score in the group made the lowest in the individual test.

A 12-year-old who scored only .03 in the group test, made an I.Q. of .52 in the individual, while another pupil who scored .39 in the group test made about the same individual I.Q., namely .53. On the other hand, a third pupil who only scored .29 in the group test scored .77 in the individual.

It is obvious that some pupils who do well in the individual test do poorly in the group test, while others who do well in the group test do poorly in the individual test. The latter tendency, however, was noticed less frequently than the former in this investigation. Where discrepancies occurred the general tendency of the group test was to exaggerate the child's deficiency. The discrepancy between the child's performance level in group and individual tests has been frequently remarked in the regular activities of the classroom. Some children are stimulated by the competition and rivalry incident to group action—they put forth greater effort, and maintain a higher level of performance longer—while others drop to a lower level. They are probably excited, distracted or discouraged by the evident tension involved in group contests.

GENERAL CONCLUSIONS

1. The Pressey Primer scale is a simple, readily and quickly administered and comparatively cheap measuring scale of so-called general intelligence which gave a correlation of .73 with the Stanford-Binet.[19] We have no results of our own to show whether this correlation is higher or lower than the correlations obtained by other group tests. It is possible that an improvement of the Pressey scale—it admits of improvement in various respects—and of the Stanford-Binet would yield a higher coefficient of correlation. But we can not obtain a perfect correlation even with the use of perfect group and individual scales if such scales could be constructed, because we can not rigidly control the factors which influence the subjects' responses in group and individual tests. The same objective factors may influence different subjects quite differently. But the conditions for maximum performance can be more easily secured in individual testing than in group testing.

2. As an aid in the selection of the pupils who are defective or the most backward mentally the group test did not prove to be superior to the judgment of the school staff. In fact, it proved somewhat inferior. It should, of course, be borne in mind that the pupils who were given the group test had been initially selected by the school staff just as truly as were the

[19] Discussion of various aspects of the scale will be found in the following references to articles by the Presseys': *Journal of Applied Psychology*, 91 f, 1918, 250 f., 323 f.; 1919, 68 f., 138 f., 277 f.; 1920, 91 f. *Journal of Educational Psychology*, 1919, 297 f. *Journal of Educational Research*, 1920, 285 f. *Bulletin of the Extension Division*, Indiana University, Vol. V., No. 1, 1919, 25 f.

children who were reported on our Form 13-H. Nevertheless the schools were permitted to select a much larger number of pupils for the group test, in order that all of the most deficient pupils would be reported.

This result is quite at variance with the view which has been frequently expressed that the teaching staff is quite incompetent to select the children who are the most deficient in intelligence, or to classify children properly without the use of group or individual intelligence tests.[20]

It is undoubtedly true that teachers of poor native endowment, and of inferior training and limited experience are unable to make accurate estimations of the intelligence of their pupils or to classify them with a high degree of accuracy. Had our experiment been conducted in a school system with poorly prepared and inexperienced teachers the group intelligence tests might have returned more intellectually low-grade pupils than the teachers would have reported. It must not be forgotten that the St. Louis teachers not only rank high in trained intelligence but have had years of experience in referring mentally defective and abnormal children to the clinic for examination. In the course of the observations which they have thus been obliged to make and the study of the case reports from the clinic they have inevitably acquired more or less knowledge of mentally abnormal types. Moreover, it is also true that even intelligent, well-trained, experienced teachers are unable to make the finer quantitative and qualitative diagnostic differentiations which the expert on mentally and educationally abnormal children is called upon to make, and which must be made in order that the proper classification may be made or proper corrective training be given. They can neither determine the precise degree of the child's intelligence deficiency—*e.g.*, whether it is high grade mental deficiency or a grave degree of backwardness—or the exact nature of the abnormality—*e.g.*, whether, in the case of a reading disability, we are dealing with a sensory defect, or a special central defect (in the secondary visual center), or a generalized mental defect, or a defect in the processes of teaching reading. But such fundamental diagnostic differentiations—of special capacities and incapacities—can not be made on the basis of group intelligence tests even by the expert, but only by a clinical examination. Group intelligence tests may be of considerable aid in selecting mental defectives or subnormals and in classifying children according to their "general intelligence" both in good and in poor school systems, if they are used soberly and with a just appreciation of their relative value, but there is little justification for the statement that it "has been shown that it is impossible properly to classify children in school without the use of group intelligence tests."[21] Little use has thus far

[20] While Binet and Simon pointed out the inability of the teachers to make accurate diagnostic differentiations, they also claimed that intelligent teachers were able to judge intelligence quite accurately by the facial features. In fact, the teachers surpassed the physicians, and even an alienist, in the attempt to classify 60 normal and abnormal children from the inspection of photographs. The latter statement by Binet and Simon is not so far fetched as it appears. We have examined literally many hundreds of cases in which the judgments expressed regarding the normality (based on their reactions in school) has been far more accurate than the diagnoses which have been made by physicians, including neurologists and alienists. We have been obliged on almost innumerable occasions to tell parents that the school staff has been right and the physicians wrong in the teachers' estimate of children's intelligence or abnormality of the child's intelligence.

[21] The claim made for one general intelligence group scale is that it can "sift out the right man

been made of group intelligence tests in the St. Louis school system, but the school work done in this system admittedly ranks with the best in the country. It would be truer to say that children can not be classified or promoted in their school work solely on the basis of their "general intelligence"

for the right place," that the scale assures parents that their children are receiving "just the sort of instruction which the schools should give them," and that the use of the scale will reduce retardation to "a negligible quantity" as if the giving of the tests would transform an inherent dullard into a capable pupil and dispense with the necessity for repetition! An enormous amount of repetition is needed even when subnormals are placed in special classes. The following claim is made for another intelligence scale. "Will find your bright children during the first twenty minutes of the first day at school and will show in the same time the relative intelligence rating of all your children of any age and grade." Certainly a group intelligence scale would *aid* the educator in the accomplishment of this desirable goal. But it is misleading to assume that all the pupils would be correctly placed by the scale.

It has been frequently stated that any one who can teach school can give group intelligence tests. This is undoubtedly true so far as concerns the automatic phases of testing. But there is more to group testing than the automatic administration and scoring of the tests. Even this can not be well done without automatizing the formal procedure. But even the group tester must be skilled in the non-automatic phases of group testing: she must be able to inspire, secure willing cooperation and sustained application, she must make relevant observations of the peculiar reaction types of various pupils to secure a basis for interpretation of the scores, etc. I recently observed a child perform in a group test given in another school system whose reaction type may not be so unusual. He did everything accurately which he was told to do by the examiner in all of the tests within his range of ability, but he failed every time to make the lead pencil check when the examiner called "stop." He scored zero in the examination, but the examiner paid no attention to the pupil's mode of reaction, and obviously could not explain the result when the individual examination showed that the child was merely backward.

as determined by a group intelligence examination, or even an individual intelligence examination,[22] but that the results of such examinations should always be utilized whenever it is possible to do so. A satisfactory pedagogical classification must take into account not only the child's "general intelligence," but also his specific pedagogical, intellectual, volitional, emotional and physical idiosyncrasies, special abilities and disabilities, together with the significant genetic or longitudinal factors in his development (and to do this requires, of course, a psychoclinical approach). It is necessary to emphasize this point because there is apparent to-day the same tendency to exaggerate the uses and possibilities of group intelligence tests which was apparent five or ten years ago in the case of the Binet tests.[23] Part of this exaggeration is, no doubt, to be ascribed to clever advertisers who want to dispose of their wares. There is now no necessity for attempting to popularize group intelligence testing by propaganda of exaggera-

[22] This conclusion has been stressed before: "The Achievement of Mental Defectives in Standardized Educational Tests," SCHOOL AND SOCIETY, 1919, 250 f. "The Achievement of Subnormal Children in Standardized Educational Tests" (a monograph delayed in publication).

[23] As an illustration of this type of exaggeration even when applied to individual examinations let us cite the following statement, published in a northwest daily on June 13, 1920, under the signature of a professor of psychology in a state university: "The problem of how by an hour's examination we can put the man on the job for which he is fitted, measure his skill for that job as accurately as we can measure the depth of a river, and tell whether the applicant must work as an apprentice under constant supervision, or as a journeyman with occasional supervision, or as an expert capable of being a boss, has been solved by the personnel staff of the United States army." Exaggerated claims are eventually exposed, and in the final analysis only retard the cause which they aim to promote.

tion. Rather the need now is for critical evaluation and caution—caution against the making of unwarranted claims and against arousing expectations that can not be fulfilled.

Let us not only admit but emphasize that group intelligence tests are of value if used as one among many aids in educational, intelligence and social classifications. But they are only one aid; they do not enable us to dispense with other relevant facts; they supplement but certainly do not serve as a satisfactory substitute for the pedagogical data (obtained from the school record); and the responses and scores obtained in group intelligence tests always call for analytic interpretation. Where no pedagogical record is available, or where a satisfactory estimate of the child can not be made because of a defective pedagogical record, the group intelligence tests naturally will be of considerable value. Beyond this two specific values of the group tests appeared clearly in this experiment in the St. Louis schools. First, in one school we culled out the mental defectives earlier than we should have done by our regular method. The principal explained that he recognized that the pupils were abnormal, but he wanted to allow them more time before reporting them for examination. There are, of course, obvious advantages in transferring very young mental defectives to special schools, but in practise we find that many parents will withhold consent until the child has had a thorough trial in the regular schools, while it takes years to reach a positive diagnosis in many cases. Second, the testing proved to be very popular in the schools, due in part to the widespread popularity of group testing since the war. The group testing afforded the schools an opportunity to see the clinic at work. It afforded a more direct contact with the schools. Some school people do not realize the amount of work that goes on "behind the scenes" in a psycho-educational clinic.

If group intelligence tests only enable us to diagnose, classify and place individuals somewhat better than we are able to do without them they will serve a useful purpose, and will be worth the time and trouble involved in using them. But they must always be used with judgment and an appreciation of their inherent limitation.

3. Group intelligence tests will not take the place of psycho-clinical examinations, for various reasons, among others the following:

First, because an adequate picture even of the individual's intellectual peculiarities can not be obtained from a group intelligence test. To get such a picture from a group intelligence scale would require the use of so many tests as to make the scale too cumbersome. In the individual examination it is possible to give scores of formal intelligence tests designed to reveal specific defects and talents, while it is also possible to make many observations regarding the individual's intellectual, volitional and emotional peculiarities. A fairly detailed psychogram can be obtained from an analysis of the responses in the Binet scale alone, owing to the considerable number and variety of the tests which it contains. The clinical picture can, of course, be made more complete by giving other intelligence tests and various psycho-motor, anthropometric, physical and pedagogical tests, according to the time available and the exigencies of the case, supplemented by relevant facts from the personal and family history.

Second, the results from the group tests are occasionally quite unreliable and misleading. We have already given instances

of marked discrepancy between the Pressey score and the diagnosis made as a result of the clinical examination. We have occasionally found equally notorious discrepancies when other group tests have been employed. To cite merely one instance:

J. R. was reported on Form 13-H from an elementary school at the age of 13-4. The examination was not requested because it seemed evident from the record (he did successful work in the fourth grade) that he belonged in an ungraded class and not in a special school for the feeble-minded. Seven months later he entered a junior high school, but was not given a group intelligence test until he had been in the school 8 months. In this test he graded 9 years 9 months, and made an I.Q. of .68 and a coefficient of brightness of .70 and, because of the low score, was immediately reported to the clinic as a "low moron" (according to the automatic standards of diagnosis promulgated to enable any teacher to diagnose) who could not be retained in the school because he was feeble-minded and therefore not responsible for his deportment, which was not the best, and who should be in a school for the feeble-minded. The clinical examination showed that he was not feeble-minded at all. At the age of 14-7 he graded 13-2 by the Stanford-Binet, thus being retarded only 1-2, and having an I.Q. of .90 (or an I.Q. of 100 according to the army adult norm). His basal age was X. He passed tests as high as sixteen.

Although subnormal in physical development, he appeared to be considerably older than he was, his state of nutrition was poor, he had deepset myopic eyes, a hoarse voice, was diagnosed as a case of neurotic inadequacy of slightly subnormal intelligence, and was recommended to an ungraded class in place of an elementary industrial school, which was not available. In this case the low score in the group intelligence test engendered an attitude toward the boy on the part of the junior high school staff which was distinctly pejudicial to his best interests. It is unfortunate that in most cases where discrepancies occur (at least in our experience) between the group and individual tests, the group rating is too low. Moreover, however accurate and valuable group tests may be with the average run of cases, it would be hazardous to make clinical diagnoses of major consequence on the basis of group scores unless the tests indicated the presence of capacities, or unless the results were in complete harmony with, and could be consistently and satisfactorily interpreted by other relevant facts.

What, then, may we hope to get, at best, from standardized group tests or scales of intelligence? We can get (1) fairly accurate measures of central tendencies, (2) measures of variation from such tendencies, (3) measures of correlation between various tests and various determinate factors, and (4) the location or classification of an individual with reference to the measure of central tendency, and of the measure of variability when the tests furnish a basis for such computation. But the measure of central tendency is largely a mathematical fiction representing no particular individual and no particular type, but merely the mean of various types some of which vary in opposite direction from the postulated average or normal person, while measures of correlation between traits also merely represent the mean of contrasting types. The study of individual differences in psychology has shown that individuals range themselves into various types, that there are variations even within the recognizable

types, and that the principles of mental behavior which apply to one type may not apply to another. Obviously, the principles which are applicable to the "average" may not exactly fit the needs of any particular individual. In the last analysis the rightness or wrongness of any particular method of instruction depends on its power to satisfy the psychological needs of the individual concerned, rather than the hypothetical average, and, ultimately, it is with particular cases that the educator, the clinical psychologist, and the physician has to deal. Group intelligence tests and results can give us valuable points of reference—average or standard scores, or distribution curves—but after the individual has been properly placed in the scale we must still try to discover the special variations found within his type—*i.e.*, in what respects he is exceptional for his own type—the causes of such variations, and the differential treatment which will meet his particular needs. To ascertain, even imperfectly, such facts as these requires an analytical or clinical study of each case.

Naturally the clinical psychologist welcomes the results of group intelligence tests, as he welcomes all items of information from whatever source which may have a bearing upon his case. His chief task is to critically interpret all his findings synoptically, to sift the relevant from the irrelevant factors, to correctly evaluate the rôle of the different factors from the standpoint of etiology, treatment and prognosis. Nothing less will afford a rounded or adequate clinical picture. The ideal at the best can, of course, only be imperfectly realized in our present state of knowledge.

J. E. WALLACE WALLIN

ST. LOUIS PSYCHO EDUCATIONAL CLINIC AND SPECIAL SCHOOLS

THE SCHOOL SURVEY FROM THE SUPERINTENDENT'S POINT OF VIEW[1]

I SHALL base my remarks upon a Biblical text, which is found in *Exodus*, 3: 10–11; 4: 1–3:

> Come now therefore, and I will send thee unto Pharaoh, that thou mayest bring forth my people the children of Israel out of Egypt.
>
> And Moses said unto God, Who am I, that I should go unto Pharaoh, and that I should bring forth the children of Israel out of Egypt? . . . behold, they will not believe me, nor hearken unto my voice: for they will say, The Lord hath not appeared unto thee.
>
> And the Lord said unto him, *What is that in thine hand?* And he said, A rod.
>
> And he said, Cast it on the ground. And he cast it on the ground, and it became a serpent.

The point of this narrative is that here was a man who was asked to do a great work, and he made the excuse that he could not do what was required of him because he had no equipment. He was not eloquent; he had no money, and no armies, and no influence. How could a plain shepherd do this great thing? He was told to begin with what he had. It was nothing but a shepherd's staff. But by means of this he performed his miracles and achieved God's purposes.

[1] On December 10, 1920, at Washington Irving High School, the New York Society for the Experimental Study of Education discussed "Mental Surveys in Public Schools." The following was the program:

1. A Mental Survey of Public School 11, Manhattan, by Professor Leta S. Hollingworth, Teachers' College, Columbia University.
2. Individual Case Work in Public School 11, by Miss Eleanor Hope Johnson.
3. Reorganization on the Basis of the Mental Survey, by Principal Benjamin B. Greenberg, Public School 11.
4. The Social Importance of Preventing Childhood Maladjustments, by Dr. Sanger Brown, 2nd, Neurological Institute.
5. The Mental Survey from the Superintendent's Point of View, by District Superintendent Joseph S. Taylor, in charge of Public School 11.

I was interested in surveys twenty-five years ago, when they were known as child study. In the fifth volume of *Pedagogical Seminary*, published in 1898, you will find a study of mine on *Interest*. Two thousand children of this city and of Winona, Minnesota, were asked what subject in the curriculum they particularly disliked, and why, and what subject they liked better than anything else, and why. I discovered some things worth while. I found out that arithmetic at that time was the subject of overshadowing influence. It was preferred by more children than any other subject. It was also hated more than any other subject. Forty-two per cent. liked it, and fourteen per cent. despised it. History came next in popularity. Nature study, music, writing, and drawing were at the foot of the list of likes. My interpretation was then and is now that if you wish to locate poor teaching find the subjects that children dislike. Our teaching of nature study, music, and drawing in those days was very crude, and the children so characterized it by their votes. Our teaching of arithmetic was better then than it is now, and the children so testified.

I, also, a quarter of a century ago, made a health survey of every class I taught. This was long before there were school doctors and school nurses in New York, and long before my official superiors paid any attention to such matters. I tested the sight and hearing of all my boys and systematically recorded their heights and weights. The figures of Porter and Bowditch were available in those days, and I had taken a course in anthropometry from Professor Burnham at Clark University. In other words, at the beginning of every term I answered the question, to the best of my ability: "*What is that in thine hand?*"

It was by such means that I discovered that the delinquent child in school is nearly always the child with some physical or mental defect or with an unfavorable social environment. By removing the cause you remove the trouble. That is why I am asking, but asking in vain, in my present position for visiting teachers in exchange for an equal number of attendance officers. Judge Lindsay gives expression to the same idea in his clinical laboratory, which is attached to his court. He never makes a final decision on a juvenile delinquent until he has ascertained the three ages of the child—the chronological age, the mental age, and the physical age. A girl with a chronological age of 14, a physical age of 18, and a mental age of 10 is almost certain to get into trouble. Hence the court is not meting out punishment, but is trying to find the best means of adjusting the delinquent to his environment.

One of the problems we have set for ourselves in my district this year is the reduction of retardation. The first question we asked was, "*What is that in thine hand?*" In other words, what are the present facts of retardation in the district? I called upon Mr. Nifenecker, the Director of our Bureau of Reference and Research, for help; and he very kindly took our last age-grade tables and worked them up into percentages for each school and grade. We are now studying causes and remedies of retardation and hope to make considerable progress in this vital matter before the year is out.

When a superintendent finds a subject below grade in his district or in one of his schools, he is frequently met with an excuse like this: "You must remember that these children are Italians. You can get results in the Bronx, among the Hebrews, but these children are different." In some cases my

rejoinder is that another school in the same district, with the same kind of children, is getting wonderful results But the reply of the supervisor would be still more convincing if he could demand and receive from the complaining teacher or principal a scientific answer to the question, "*What is that in thine hand?*" If we had a complete inventory of the I.Q.'s of an Italian school that is making excuses so that we might compare the same with a similar inventory of a school that is turning out a high-grade product, we should all understand our problems so much better than we do now. Mr. Greenberg never made the excuse that his material was poor, but the survey proves that he would have been justified in doing so; for his intelligence curves are decidedly below normal. But even this fact does not entirely relieve us of the responsibility; it is possible that the low grade of intelligence shown by these children merely reflects the inefficiency of the teaching they have had in the past. And responsibility for this condition must be shared by private and parochial schools, for large numbers of the children received a part of their education in these schools.

In the subject of reading I often hear this excuse for poor work: "But these children are foreigners. They can not read like native children. In the Bronx you had Americans." They don't know the Bronx!

Is there any difference between nationalities in reading ability? The St. Louis survey has an answer ready. Mr. William S. Gray measured the reading ability of about eleven thousand children. He found that in oral reading English and German speaking children represent the average achievement. Jewish children are above the average, and Italians are below the average.

What is that in thine hand? If you have Italian children, the problem of oral reading is harder. But even that is not sufficient excuse for poor work, because the finest oral reading in my present district is done by an Italian school.

Teachers in boys' schools sometimes tell me that girls are better readers than boys, and thus try to excuse poor work. Is it true that girls read better than boys? The St. Louis survey has an answer to that question also. It says girls are superior to boys in oral reading, and that the difference is equal to the progress made in one third of a year. In silent reading girls are superior to boys in rate in the lower grades; but boys are superior in mastering content in all grades.

Let me warn you in conclusion that surveys are not *ends* but *means*. They merely answer the question: *What is that in thine hand?* They help you to define your problems with greater precision; but they can not solve your problems. There is no satisfactory substitute for good teaching and good supervision. I am disposed to put most of the responsibility for good schools upon the supervisory officers. For, if you take fifty of the finest teachers in New York and put them in charge of an incompetent principal, you will have a poor school. But take fifty ordinary teachers and put over them an extraordinary principal, and you will have an extraordinary school.

The rod of Moses represents the ordinary ability of the plain man. Moses had no idea that it was good for anything except herding sheep. But, touched by divine Providence, it became a mighty weapon that overthrew the hosts of Pharaoh and delivered the people out of bondage. He cast it on the ground, and it became a serpent. He smote the waters and they be-

came blood. He stretched it over the waters and the plague of frogs came. He stretched it forth toward heaven and there came fire and thunder and hail.

So the average teacher in the classroom may possess the power of working miracles, if, like Moses, he has seen the burning bush and talked with God; if, in other words, he looks upon teaching as a sacred calling, and realizes the vast responsibility of moulding the destiny of human souls.

Bless this little heart, this white soul that has won the kiss of heaven for our earth.

He loves the light of the sun, he loves the sight of his mother's face.

He has not learned to despise the dust, and to hanker after gold.

Clasp him to your heart and bless him.

He has come into this land of a hundred cross-roads.

I know not how he chose you from the crowd, came to your door, and grasped your hand to ask his way.

He will follow you, laughing and talking, and not a doubt in his heart.

Keep his trust, lead him straight, and bless him.

Tagore: "The Crescent Moon."

JOSEPH S. TAYLOR

BOARD OF EDUCATION,
NEW YORK CITY

EDUCATIONAL EVENTS

TEACHERS' SALARIES AND THE PURCHASING POWER OF THE DOLLAR[1]

THE committee, consisting of President W. H. P. Faunce, of Brown University; Professor Robert N. Corwin, of Yale University, and myself, chairman, recommend that the association should express itself as favoring: First, the raising of teachers' salaries, so far as practicable, so as to equal at least their pre-war purchasing power. Second, in order to meet the objection to such a full adjustment that it would soon become an overadjustment because of an expected fall in the cost of living, we favor the use of an Index Number of the cost of living for adjusting salaries upward or downward after the initial adjustment has been accomplished, provided however that this adjustment according to the cost of living shall not prejudice any other adjustment based on merit or the other conditions which properly affect teachers' salaries. Third, we favor the official investigation by Congress of plans for stabilizing the purchasing power of the dollar.

Teachers' salaries have lost in purchasing power because of the loss in the purchasing power of the dollar during the war. Previous to that time, the teacher, especially the woman teacher, had been advancing in economic conditions quite steadily for many decades. At present the teacher's condition is no improvement over what it was forty years ago and the recent increases in salaries have only about half compensated for the losses incurred during the war. Salaried people in general, and teachers in particular, are the victims of any decreases in the purchasing power of the dollar just as they are the beneficiaries of any increases. The phenomenon which we have been witnessing during the present war was in evidence in the case of the Civil War. It threatens not only the well-being of the teacher but, what is far more important, the standard of teaching. Thousands of teachers are deserting the profession and very few of the highest grade are entering it. This does not augur well for the quality of teaching of the next generation. Just at the time when intellectual leadership is needed, when generations should be educated to take care of the greatest problems, economic and other which mankind has ever had to face, there is thus great risk of losing ground in our standards. This is one of the many illustrations of the evils which come from an unstable monetary unit. We have stabilized every other unit used in commerce—the pound, the yard, the kilowatt, the horse power and all the others. The dollar alone is a relic

[1] Abstract of the remarks of Professor Irving Fisher reporting the recommendations of the Committee of the New England Association of Colleges and Secondary Schools on Teachers' Salaries in Relation to the Cost of Living.

of barbarism. It is merely a unit of weight of gold masquerading as a unit of purchasing power. It is manifest destiny that it must some day be stabilized as every other unit has become stabilized. And its stabilization will tend to give stability to all sorts of social conditions, including the status of teachers and the standards of teaching.

BACKWARD NORTH CAROLINA

A PRESS bulletin from the University of North Carolina says that in 1918 the average salary of all the teachers, elementary and secondary, rural and urban, in North Carolina, was $284. In this respect North Carolina falls below all the states and stands at the foot of the column, being $7.00 below Mississippi and $31.00 below South Carolina. The average salary of teachers for the United States was $635—more than two and one half times as much as for North Carolina. In 27 states the average salary was more than twice as much as in North Carolina. In 8 states it was more than three times as much, and in one, California, only $24 less than four times as much.

Since in North Carolina the salaries of high school teachers, of all teachers in the city schools, and of many rural teachers in the better counties of the state are far above the average, the salaries of many other teachers and particularly of the teachers in the one-teacher country schools, where for many reasons the best teachers are needed, are lower still—pitifully and shamefully low.

Thousands of these teachers are paid less than it costs to feed prisoners in the county jails. And the prisoners have free lodging, fuel, light, water, medical attendance, and laundry, and they have the ministry of the churches without cost to them. If these thousands of teachers were by collusion to commit some crime over night and get in jail for a year, the taxes of the counties in which they teach would have to be increased by many thousands of dollars to pay their board, to say nothing of other expenses connected with their imprisonment. The pay even of the best half of the teachers is small compared with the pay of mail carriers, stenographers, porters on Pullman cars and messenger boys. Their pay is only a small fraction of the income of lawyers, physicians, engineers, and others doing work requiring something like the ability and preparation that ought to be required of those who are responsible for the education of North Carolina boys and girls for citizenship, for making a living, and for contributing to the commonwealth.

THE FINANCIAL CONDITION OF THE UNIVERSITY OF MAINE

ADDRESSING a group of field workers in the agricultural extension service, President Aley recently discussed some of the needs of the University of Maine, with especial reference to the budget that will come up for consideration at the session of the legislature. Speaking of the suggestion, that has come from several quarters, that the price of tuition to students from outside Maine be increased, or the attendance at the university restricted to Maine students, he said that the tuition to out-of-state students was this year raised from $100 to $160, and, with a single exception, is higher than is charged by any other state university in America. The exception is the University of Virginia, which charges only $10 a year to students within that state, but $170 to those without the state.

To refuse admission to any students from outside Maine would mean to entirely give up Federal aid. Federal appropriations for the University of Maine and its extension work for the year ending June 30, 1921, amount to $148,758. Of course the government would refuse to continue its assistance if only Maine students are to be admitted to the courses.

The total amount of money received by the University of Maine from the date of its founding until the present time is approximately $5,487,403, of which amount $2,600,000 has come from the state, $2,409,756 from the United States government, $125,147 from the General Education Board and $352,500 from private parties.

There are at present only 177 students from outside Maine in attendance at the university, and any further increase in their

tuition would amount to very little. In conclusion, the appropriations asked for are not padded; they cover actual needs. The maintenance fund asked for, $750,000 to cover a period of two and one-half years, will be barely enough to support and strengthen departments now existing, and to equip the institution with books and apparatus necessary to meet modern educational conditions.

CHILD LABOR DAY

Child Labor Day will be observed as usual, January 24, 1921, in schools, colleges and clubs throughout the country. The National Child Labor Committee in announcing this observance suggests that it will be a good time for schools to impress upon their pupils the value of staying in school as long as possible and the use of continuation schools after they have gone to work. The committee says:

> There are reports coming in all the time to the effect that economic pressure is driving many children out of school this year and so we feel that there can be no better use for Child Labor Day than to impress on pupils and on their parents wherever possible the folly of leaving school too soon because of an alluring initial wage. The United States Bureau of Education has published some telling arguments against such a course, which should be brought to the attention of every child who is near the school-leaving age. "Every day in school adds $9.00 to your wages," is one clear way of putting it. Also, "The boy who leaves school at 14 has only half the earning power at 25 that the boy has who stays in school until he is 18."
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> The two most effective measures for keeping poor children from giving up school are mothers' pensions and continuation schools. All but eight states now have some form of mothers' pensions and several of them are asking for increased appropriations this year or an extension of the age limit so as to give aid to more poor children. There are continuation or part-time schools in twenty-five states and others proposing them in their legislatures this year.
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> The great value of the continuation school to the state is that it affords a means for keeping some control over working-children until they are eighteen, and prevents their leaving school and then simply drifting if they happen to stop working. A very good example of the effect of them is the situation in Massachusetts this year where the law requires attendance at continuation school 4 hours a week if the child is employed, and 20 hours if unemployed. A great many children between fourteen and eighteen have been laid off this year owing to the closing down of industries, and the result is that they are going to continuation school 20 hours a week instead of 4 and the schools are crowded. But what would happen to those unemployed children if they were not required by law to attend school? What hold would the schools have on them and how would the schools be informed of their unemployment?

Any one wishing special material on child labor for use on Child Labor Day, or posters to announce child labor meetings should apply to the National Child Labor Committee, 115 East 22d Street, New York City. Child Labor Day has been observed annually for fourteen years and attracts wide attention throughout the country. As a rule no money-appeal is connected with it and membership in the National Child Labor Committee is not solicited, but this year owing to the difficulties in raising funds due to general economic pressure and the number of other appeals that are being made, the committee asks that any one who is willing to do so shall endeavor to secure membership enrolments for the National Child Labor Committee on Child Labor Day.

CONFERENCE CALLED BY THE U. S. COMMISSIONER OF EDUCATION

In cooperation with the officers of the Vocational Education Association of the Middle West, two conferences of specialists in industrial education and commercial education, respectively, have been called by the U. S. commissioner of education, to meet on Wednesday evening, February 9, at Minneapolis.

The general topic for discussion at the after-dinner program of the Industrial Education Conference will be: "Organization of instructional material in individual units." "The enactment of legislation in 25 states requiring attendance upon continuation schools affords the opportunity, as it does a challenge, to develop a type and method of instruction differing from those of the all-day public school." The general topic for discussion at the after-

dinner program of the Commercial Education Conference will be: "Preparation of commercial teachers for secondary schools." The commissioner of education will be represented at these conferences by Dr. William T. Bawden, assistant to the commissioner, who will preside at the Industrial Education Conference, and by Dr. Glen Levin Swiggett, the Bureau's specialist in commercial education, who will preside at the Commercial Education Conference.

A conference of specialists in industrial education has been called to meet in connection with the annual convention of the National Society for Vocational Education, on Wednesday, February 23, at Atlantic City.

The general topic for discussion at the afterdinner program will be: "The contribution of correspondence-instruction methods to industrial education." According to the announcement made by the commissioner of education, "this conference will not undertake a discussion of 'correspondence schools,' or their policies, but will endeavor to determine what features of 'correspondence-instruction methods' may be utilized profitably in industrial education."

EDUCATIONAL RESEARCH

THE directors of The Commonwealth Fund having become convinced of the importance of encouraging educational research requested a group of leading educational men of the country to report upon the opportunities in the field and recomend a plan of operation.

This Educational Research Conference was held in Atlantic City, on October 23, 24, and 25, 1920. The members attending the conference were:

A. Ross Hill, president, University of Missouri, Chairman;
Lotus D. Coffman, president, University of Minnesota;
Charles H. Judd, director, School of Education, University of Chicago;
Paul Monroe, director, School of Education, Teachers College, Columbia University;
Leonard P. Ayres, then director, Division of Education, Russell Sage Foundation;
Samuel P. Capen, secretary, American Council on Education;
Paul H. Hanus, professor of education, Harvard University;
Max Farrand, general director of The Commonwealth Fund.

A gratifying feature of the conference was that the members were able to agree so readily, not merely upon the large divisions of the field, which were fairly obvious, but also in selecting some of the most desirable problems to be investigated within each division.

The conference therefore made its report, choosing for its main subjects: the problem of school revenues; the evaluation, analysis, measures and standards of accomplishment of school subjects; the field of supervision; and the reorganization of public school systems. In each one of those larger divisions the conference chose a particular subject by way of illustration, suggesting how and by whom the study of that particular subject might be advisedly undertaken.

For the carrying on of this research, the conference recommended the appointment of a committee to consider and recommend projects for research, and to assume executive responsibility for supervising the carrying on of such researches as might be adopted, and it was deemed advisable that this committee might also recommend researches to be undertaken by individuals or associations.

The directors of The Commonwealth Fund accepted this report, and appointed the following committee:

Leonard P. Ayres, vice-president, Cleveland Trust Company;
Samuel P. Capen, secretary, American Council on Education, *Secretary;*
Lotus D. Coffman, president, University of Minnesota;
Ellwood P. Cubberley, professor, Stanford University;
Charles H. Judd, director, school of education, University of Chicago;
Paul Monroe, director, school of education, Teachers College, Columbia University;
Frank E. Spaulding, professor, Yale University;
Max Farrand, general director, The Commonwealth Fund, *Chairman*, ex officio.

EDUCATIONAL NOTES AND NEWS

AT the recent meeting of the American Association for the Advancement of Science at Chicago, Professor Eliakim Hastings Moore, professor of mathematics in the University of Chicago, was elected president; Professor Guy M. Whipple, of the University of Michigan, was elected chairman of the Section of Education; Professor Margarete Floy Washburn, of Vassar College, was elected president of the American Psychological Association.

FRANK B. GILBERT, deputy state commissioner of education, has been appointed acting commissioner and acting president of the University of the State of New York by the board of regents to serve temporarily after January 15 in place of Dr. John H. Finley, resigned. Mr. Gilbert was counsel for the Education Department before being named a deputy commissioner by Dr. Finley.

DR. DAVID E. WEGLEIN, principal of the Western High School, Baltimore, has been appointed an assistant superintendent of public schools at a salary of $6,000. To fill the vacancy in the Western High School, Dr. Ernest J. Becker, principal of the Eastern High School, has been transferred, and Dr. Andrew H. Krug, head of the department of English at the City College, has been appointed successor to Dr. Becker at the Eastern High School.

THE resignation of Dr. Hollis Godfrey as president of Drexel Institute and his appointment as chairman of the Council of Management Education were announced on December 26. His resignation goes into effect next October.

HENRY AUGUSTUS BUCHTEL, for twenty-one years chancellor of the University of Denver, has resigned on account of ill health and his resignation has been accepted by the board of trustees.

DR. WILLIAM FLETCHER KING, for forty-five years president and acting president of Cornell College, celebrated his nintieth birthday on December 20. Both the members of the faculty and the student body of Cornell sent special greetings to him at his winter home in California. Dr. King has the unusual distinction of having served more years as college president than any other man in America, as well as having been member of the Board of Education of the Methodist Episcopal Church longer than any other man in the history of that organization.

DR. HENRY RAND HATFIELD, professor of accounting on the Flood Foundation in the University of California, has been appointed dean of the faculties of the University of California, to succeed Professor John Campbell Merriam, now president of the Carnegie Institution of Washington. Dr. Stuart Daggett, professor of railroad economics on the Flood Foundation, was named dean of the College of Commerce in place of Dr. Hatfield who resigned that position to accept the new appointment. Dr. Jessica B. Peixotto, professor of social economics, has been elected chairman of the economics department, vice Professor Daggett, resigned.

THE board of trustees of Syracuse University has declared the School of Business Administration to be the College of Business Administration. It will hereafter be designated as a college, like the other departments of the university. Professor John H. Wharton has been advanced to acting dean of the college.

CHARLES S. DANIELSON, bursar of Columbia, was elected president of the Association of Business Officers of Universities and Colleges of the Eastern States at the first meeting of that Association, held at John Hopkins University, on November 26–27. Fifteen institutions were represented at the meeting.

GOVERNOR E. L. PHILIPP has appointed Harry L. Butler a member of the board of regents of the University of Wisconsin. Mr. Butler's term will continue until February, 1925. Mr. Butler was graduated from the University of Wisconsin Law School in 1889 and has been a leading Madison attorney since that time. He is a member of the firm of Olin, Butler, Stebbins, and Stroud. The appointment is to fill the vacancy on the board caused by the death of Dr. Charles H. Vilas.

The regents have drawn up the following resolution:

Dr. Charles H. Vilas, son of Wisconsin and friend, benefactor and servant of Wisconsin, has gone from us and his chair is vacant in our council. He was gentle, gracious, considerate, and yet firmly executive. His career as regent was an inspiration and our lives are the richer for intercourse with him.

We recall his very recent prophetic address, in which he expressed his deep and constant devotion to the University of Wisconsin, and his confidence in the fullfillment of her high ideals, and pledged the finest effort of his few remaining earthly days to her advancement. He kept the faith and he has passed beyond the veil.

We join with the city of Madison and the state of Wisconsin in expressing the university's lasting appreciation of his splendid benefactions to humane causes and his long and unselfish career of kindly service.

GOVERNOR Nathan L. Miller had a long conference on December 28 at Syracuse with heads of the State Department of Education on conditions in schools of the state and on plans that have been suggested for improvements. It is understood that the governor's economy program was emphasized. Those who visited him were Dr. John H. Finley, retiring state commissioner of education; Frank B. Gilbert, deputy commissioner, and E. B. Wright, of the State Teachers' Association.

PRESIDENT PRALL of the New York City Board of Education has written to Mayor Hylan informing him that the public school budget for 1921 can not be reduced by the $2,000,000 proposed in the recent budget conference, and that $77,269,938.77 will be required for next year. The only material reduction made was in the account for continuation classes. By a reorganization of the continuation school program the Board of Education can save $676,100. Mr. Prall wrote: "With the most liberal building program for new school buildings ever voted by a City Administration now under way, and with an additional program for the year 1921, involving nearly $50,000,000 of additional new buildings made necessary by the lack of support of our public school system by former City Administrations, we feel certain that no complaint will be offered by the public to this request for the proper and economical administration of the public school system of this city. I trust you will explain our position to the Board of Estimate and Apportionment, feeling assured they will be in accord with the stand we have taken in this matter."

THE Yale University Department of Health is the recipient of an anonymous gift of $150,000 in securities. The income from this gift is to be used for the benefit of the Department of Health, but should additional endowment be provided, the donor is willing that the principle of this gift be used toward the erection of a new building for the special work of the department.

THE British Secretary of State for the Colonies has appointed a committee to consider and report what steps can be taken to secure the assistance of the universities in carrying out the research work which is essential to the protection of the inhabitants of the Colonies and Protectorates from disease and to the successful development of their veterinary, agricultural and mineral resources. The members of the committee are: The Right Hon. Lord Chalmers (chairman), Sir H. Birchenough, Sir J. Rose Bradford, Sir W. Fletcher, Professor E. B. Poulton, Sir D. Prain, Sir H. Read, Sir S. Stockman, and Sir A. Strahan.

AT the convention of the New Jersey Teachers Association a minimum salary of $1,200 a year was favored for all New Jersey teachers, and efforts to have legislation passed to this effect will be made at the coming session of the legislature. The teachers also favor the enactment of a state salary schedule of annual increases based on the length of time they have served.

THE Montana State Teachers Association at its annual meeting in Billings declined to affiliate with the American Federation of Labor, but adopted the report of a special committee providing for the formation of local councils of public school instructors which may be affili-

ated with any national organization the local council may elect.

THE Utah Agricultural College has opened a special school for enlisted men. This school, which is said to be the first of its kind in the United States, is planned to be the forerunner of others at various forts and training camps. The courses cover the regular school year of nine months, the subjects including crops, dry farming, irrigation practise, farm live stock, dairying, beef and wool production, tractors and farm motors, truck gardening, farm management, marketing of farm products and rural economics. Monday and Tuesday of each week are reserved for class work. On these two days members of the Utah Agricultural College faculty are in Salt Lake City to conduct the courses. All expenses of the schools are being paid by the War Department. Special field excursions to various parts of the State are being conducted by the extension division of the college under the direction of the county agricultural agents.

PLANS for a five-months' course of instruction in American history and institutions, to be attended by all Japanese language school teachers in Hawaii, were formulated recently by twenty prominent Japanese educators and business men of Honolulu who met at the Japanese consulate. The course of instruction will be worked out by an executive committee of Japanese operating in conjunction with local American citizenship organizations and the Y. M. C. A. The executive committee is composed of four well-known educators. It will continue in existence for the duration of the five months' course and will meet frequently with larger bodies composed of the leading Japanese in the islands.

THE *Wesleyan Alumnus* says: "Registration figures for this year will cause some surprise to the alumni who have been following the situation at Wesleyan closely. Instead of almost 200 freshmen, as was the case last year, there are now registered about 150 new men. The upper classes are fairly large, so that the total registration is over 550. Normal shrinkage will bring this total down to approximately 500 before the end of the year. Last year there were too many men in college, considering the equipment and size of the faculty at Wesleyan. It was, therefore, voted by the board of trustees last June that the freshman class should this year be limited to 170 men. At once the committee on admission endeavored to devise entrance requirements which would furnish approximately that number. Six months in advance of the opening of college it was extremely difficult to know whether admitting men with one condition or with two or with none at all would bring a total of 170 freshmen out of approximately 300 applicants. As the event proved, the restrictions were a bit too tight, so that instead of 170, there are approximately 20 less than that number of new men in the freshman class. However, these freshmen are better prepared on the average than any class that has ever entered Wesleyan, so that the shrinkage due to failure in studies will be much smaller than is usually the case. Out of the 197 freshmen of last year, only 155 have entered college this fall. We may be certain that there will be no such loss in numbers in the case of the class of 1924. The college now stands at about the enrollment it should have, if Wesleyan is to maintain her tradition of high standards. Further increase of numbers, without corresponding increase of faculty and equipment, would mean academic disaster."

AT a recent meeting of the corporation of Yale University it was

Voted, that the proposal for the establishment of additional scholarships and loans for New Haven boys, in accordance with the following minute and vote of the University Council, be approved and authorized:

"Mr. Chittenden, chairman of the committee on New Haven scholarships, reported for the committee showing that during the past year $12,601 had been granted in scholarships and loans, to 79 out of a total of 339 undergraduates from New Haven, but recommending 'the establishment for the benefit of deserving New Haven boys of twenty-four additional scholarships, each one to cover $300 a year, *i.e.*, the annual tuition charge' beginning with 'six scholarships in 1921 for students entering the then freshman class'; and that the sum of $6,000 'be set aside to be used annually for scholarship loans to New Haven boys of good scholarship standing.'"

"Voted, that the plan recommended by the committee and endorsed in letters from Mayor Fitzgerald, Secretary Wiggin of the Mayor's Committee, and others, be approved and transmitted to the corporation for its consideration, with the understanding that the selection of the men for the additional scholarships will be in the hands of a committee consisting of the director of the Bureau of Appointments, the deans of the college, the Sheffield Scientific School, and the freshman year, the chairman of the Committee on Admission, the chairman of the Department of Education, the superintendent of schools of New Haven and the principal of the New Haven High School; and with the further understanding that these scholarships will only be awarded 'to New Haven boys who have been residents of the city of New Haven for at least five years prior to entering the university,' and that they will be awarded and retained only when the scholarship, character and general standing of a man is satisfactory."

AN increase of from $200 to $250 in the tuition fee of Dartmouth College, to become effective in September 1921, is announced by the college authorities. A change in the scale of scholarship awards will be made at the same time.

THE teachers in Baltimore have for two years been waging an active contest for an increase in pay. Meanwhile it has been almost impossible to fill the ranks of teachers needed. This year the teachers put before the Board of Estimates a demand for an average increase. This has now been granted, and the addition to the pay roll will amount to $1,254,000.

THE graduate council of the University of Oregon has passed the applications of the department of psychology and the department of physics, of the University of Oregon, to give the degree of doctor of philosophy. The degrees of bachelor of arts and bachelor of science have been given in the state of Oregon for more than fifty years, first by Willamette University and since 1876 by the University of Oregon. The doctorial standing given to the two university departments therefore represents over half a century of progress in higher education in the commonwealth of Oregon. In the undergraduate work, 350 are taking psychology and 150 are taking physics.

COURSES for the training of teachers will be offered at the summer sessions of the University of Iowa. These will consist in part of regular graduate courses in special cycles which will enable college teachers to study for advanced degrees in successive summer sessions and partly of pedagogical courses by the college of education and some other departments in which the student may wish to do special work.

DISCUSSION AND CORRESPONDENCE

A LITTLE ADVENTURE IN EXAMINATIONS

I HAVE been hoping that somebody, of those who know it, would tell this story. It seems to me that it ought to be told, and then taken for what it is worth. It must be said that the scenes of the adventure are not among the best known institutions in the land, and yet they are in the land. Perhaps there is not much in the story after all. Perhaps under changes of methods young folks in school are not expected to know what they have been over in the books. And yet one would think they might be expected to know some of the underlying principles or some of the outstanding facts. Well, if this adventure is any indication they do not.

I shall name no names. A part of the time there were five in the party of inquisitors, a part of the time there were four, most of the time the original three, one of whom was general boss while the other two did the work. It is a pity that from the first no account was kept. The fact is that the quest grew in scope beyond first intentions. The examiners fell, as it were, into the campaign. I can not say just how many high-schools were visited. Perhaps thirty, not less. The classes generally examined were those of the second and third years. Very short written tests were given in English, Arithmetic, Algebra, United States History, Latin and Greek when found.

The test in English was simply the writing of a few sentences, and I may say at once that in this, while there was not much to brag of, the showing made was far the best.

In arithmetic three examples were given. One was in subtraction of fractions, like this,

subtract 14⅛ from 23¼. The second was an example in simple interest, like this, find the interest on $240.50 for 2 years and 4 months at 6 per cent. The third was to find the cost of a ham weighing so much at so much a pound, involving fractions.

In algebra there were usually two examples, one the simplification of a fraction, the other a simple equation, neither of them difficult. I recall that one example I saw could readily have been solved in one's head.

In United States history the questions could hardly have been simpler. The answers to the questions would be found in any of the text-books for school use.

In Latin three or four nouns were set to be declined, nouns found in Cæsar and without catch, unless *hiberna* be considered to have a catch. The victims found it so, because with one single exception they tried at it in the first declension. Besides the nouns a few forms of pronouns and verbs were asked and occasionally the comparisons of two or three adjectives. A simple sentence in English, based on Cæsar, was given to be turned into Latin. It contained not more than a dozen words and involved no difficult construction.

Now I am aware how much more valuable it would be if I could give the actual percentages of the results that were obtained, and I greatly regret that these were not preserved. I shall have to ask the reader to take my word that I do not exaggerate. Even with this honest profession I should blame no one for doubting.

Let us take the history first, and please remember that none of the girls or boys examined were below the second year of high-school. I said that the English was fairly good in the direct English test, but it was not good when used in answering, or trying to answer, the questions in history. The expression "trying to answer" is correct, because the questions were not answered. There seemed to be no knowledge whatever of the time of events. The Revolutionary war might be after the Civil War, and the Mexican was before or after both. Three pupils, two in one school and one in another, gave a fair description of the Monroe Doctrine, these three out of the whole number in thirty places. Not one could tell the presidents from Lincoln to Wilson with any degree of accuracy. Some inaccuracy might naturally have been expected and pardoned. Most did not so much as try. William J. Bryan was named a number of times and William Cullen Bryant several times. There was no evidence in any of the answers that any clear-cut information in United States history had been gained by a single one of the young people examined, if we except the three mentioned above.

The arithmetic and algebra showed, if the possibility can be imagined, even worse results. It was a rare exception when any one of the examples was worked correctly. I had the opportunity of looking over the papers in arithmetic and algebra of a second-year high-school class of 34 members. Four did the subtraction of fractions, two did the interest example, three found the correct price of the ham, and one came pretty near solving one of the two questions in algebra. It is interesting to note that when the principal of this high school and the chairman of the school-board at their request saw the papers, they were genuinely amazed at the results. Perhaps all the instances were not quite so bad as this, and I am willing to say they were not, but there was not much difference. It was a case of *ex uno disce omnes*. You would think that any high-school pupil could work a simple example in interest, but the results showed otherwise. Nor was the failure in any case due to a lack of time allowed for the answering.

I shall not speak of the Greek, except to say that in the few efforts made it was as bad as the Latin. And how shall I speak of the Latin? One pupil wrote, as the principal parts, *possum, possere, opossum,* and this is not much beyond what could be told of all the rest. It was a rare exception when any noun was declined correctly, and hardly any attempt was made at the sentence. In brief there was nowhere found an accurate knowledge of the forms. In fact the readers of

Cicero and Virgil seemed utterly above the knowledge of cases and tenses. Out of a class of ten in Virgil, seven said that *arma* in the first line was a genitive in the first declension. I can hardly expect this to be believed, but it is a fact. I saw it. The pupils said they did not study Latin that way. I found out how they did study Latin. It was with an interlinear. Now the present writer is a believer in a reformation in the teaching of Latin, and is not ashamed to confess that he has ventured on Latin with the natural method. He believes that a pupil ought to know at least five hundred Latin words before he is bothered with the ablative absolute or the attempted classification of conditional sentences. But there is a limit, and we know that there is no satisfaction in the pretense of reading Latin without a knowledge of the forms. The Latin these examiners found indicated a clear waste of time so far as anything like thoroughness, accuracy and mastery is concerned.

Alas, according to these examinations, the same might almost be said of the other subjects. I asked the examiners what they thought of their findings. They expressed surprise at the results. They were inclined to palliate as follows: First, the schools they examined may perhaps have happened to be below the average. Let us hope they were, but let us also hope that these same examiners or others may extend the investigation. Secondly, examinations given by outsiders may have put the pupils at a psychological disadvantage. But the same pupils would probably have spelled cat correctly no matter who asked the question. Thirdly, the questions generally dealt with matters that had been studied previously and were not then being studied. But if a boy has once really learned and sufficiently practised how to work an example in interest he could hardly forget the simple process.

I asked the examiners if they had reached any positive conclusions. They replied tentatively as follows, protesting that the conclusions were to be understood as applying only to the limited extent of their investigation: First, the text-books used were generally too long and too difficult. Second, there was evident a deplorable lack of demand for accuracy and sureness. Third, the time spent in the study of Latin as conducted in any of the schools examined was worse than wasted. Fourth, that certainly for these high schools the admission to college on certificate was a bad thing. One Latin teacher remarked that her principal had said he did not have to certify that the students knew Latin; he had only to certify that they had gone over four books of Cæsar, seven orations of Cicero, and six books of Virgil.

As I have said, let us hope that these or other outsiders will continue such simple tests of knowledge in other schools. There was nothing new-fashioned in the tests. They were frankly tests of knowledge, elementary knowledge of the subjects studied. Perhaps such tests are out of date. If so, if pupils are not expected to get some knowledge and mastery of what they have been supposed to study and learn, why teach the subject? Why spend a year in United States history if a year later the pupil does not know accurately anything about United States history? In the words of Hashimura Togo we ask to know.

J. H. DILLARD

CHARLOTTESVILLE, VA.

QUOTATIONS

A PLATFORM OF SERVICE

A PROFESSION can never be developed from without; wholesome growth and permanent gains come only through the operation of forces that work from within. The professions that to-day represent the highest standards of service very largely control the conditions governing that service. Their practises are governed by public laws, but these laws have usually been framed by the professions themselves and passed by the representatives of the people because the professions have taken the initiative and made the demand. Not only have the professions safeguarded the public interest by securing public legislation; they have safeguarded the

public interest by voluntarily imposing upon themselves restrictions that may even impress the lay mind as needlessly oppressive.

It means much to the dignity and worth of a calling that its standards and ideals are self-determined. It implies a measure of public confidence that gives to the professional group a powerful prestige in its efforts to improve its service. To raise their profession to this plane of public confidence should be the aim of all teachers who have at heart the welfare and progress of education. Only united action can bring this about, and united action means, first of all, effective organization.

For the first time in the history of American education, the framework of such an organization has been set up. The National Education Association is now a federation of state and local teachers' organizations. Its deliberations and proceedings hereafter will be organized and conducted on the delegate basis. Its pronouncements will voice the opinions and record the judgments of the teaching public with a measure of fidelity that has hitherto been out of the question.

At the present time more than sixty thousand teachers speak through the National Education Association. By the close of the year, the number will be more than one hundred thousand. The voice of one hundred thousand teachers will be listened to by the public. Within a year this first condition needed to elevate teaching to the status of a real profession will be met. From that time forth all-important questions will be this—"How may this great organization which now has the ear of the public use the opportunity to promote public trust in its proposals?"

We speak frequently in these days about "selling ideas." The first step in selling an idea is to obtain a hearing. That point the association will soon reach. The next step is to convince the prospective purchaser that the goods offered meet a real need, and that the price is consistent with the value. But in building up a permanent business the first sale is at best no more than a fair beginning. Only as the goods continue to satisfy will the market continue, and in proportion as the goods do satisfy, the confidence of the market in the merchant grows apace. It is that confidence that must be the goal toward which our efforts are directed. The items in the association's program are the goods that are offered; the public is the market; the association is the merchant. The public's confidence—its "good will"—once it is assured, will be the association's most important asset.

The essential strength of the association under its new organization lies in the vigor of its component units. The influence of each of these units adds to the power and prestige of the central body; and through the central body each unit partakes of the strength of all the others. To contribute to the development of each and every affiliated organization is to increase the effective power of the association as a whole.

The association, then, has an important service to discharge in promoting, in every way consistent with its charter, the progress of teachers' organizations throughout the country. This service can not be limited to an encouragement of new movements, important as these are. It must involve as well the safeguarding of the gains already made and especially the defense and protection of professional interests, standards, and ideals. The association has properly placed its first emphasis upon the responsibilities of the profession to the public; but it recognizes that there must always be a fundamental balance between responsibilities and rights. Vigorously to combat in every legitimate way the injustices to which teachers may be subjected because of their occupation must be part and parcel of its efforts to *advance the interest of the profession and to promote the cause of education*. It is true that there should be no empty threats or idle boastings here; it is equally true that there should be no mincing of words. The National Education Association is in a position to serve a plain warning to those who would defame the teaching profession, belittle the public-school service, or embarrass teachers in the performance of their duties. A clear implication of the com-

mission given to the association in its charter is the duty of protecting the profession and its members from unwarranted and unjust attacks. The association will not seek trouble—but neither will it seek at the price of self-respect to avoid trouble. It has the most pacific of aims; but in the defense of the profession and in the professional protection of its members it has both the power and the determination to be as aggressively militant as the occasion may demand.—*The Journal of the National Education Association.*

BASIC COURSES IN EDUCATION[1]

THE aim of this study is to sift out elements of theory and practise essential in the professional training of teachers, and to organize them into a few coordinated studies suitable for use wherever teacher training is undertaken. Such selection and organization of materials should:

1. Provide a desirable community of ideas,
2. Qualify for intelligent, sympathetic, and effective cooperation in educational work,
3. Assure comparable professional training in the various and varied institutions assuming to prepare teachers for their work,
4. Standardize studies in education so as to enable one institution to give proper credit for work done in another, and
5. Secure interstate accrediting of teachers' certificates.

The materials providing the background of this report were gathered from the following sources:

1. Reports submitted to the Society of College Teachers of Education, especially Freeman, "Educational Psychology" and Anderson, "The First Course in Education."
2. Other educational literature-texts, monographs and periodicals.
3. Suggestions gathered from correspondence with individuals interested in the problem of teacher training.
4. Answers to a questionnaire received from fifty-six members of the Society of College Teachers of Education, thirty-three representative city school superintendents, and one hundred and forty-one others who are graduates of colleges of education—a total of two hundred thirty.

The questionnaire used included outlines of several courses in education now in common use and a list of titles of courses. Certain courses were omitted because previous studies supplied reliable data. Since the outlines were made out by as many individuals working independently, a considerable amount of overlapping, though foreseen, was unavoidable. This, however, occasioned very little inconvenience in handling materials. Accompanying the questionnaire were a letter stating the objects of the study, and a sheet of instructions concerning the making of returns. Special request was made for the insertion of additional topics, titles, and outlines deemed important in teacher training.

Each course outlined in the questionnaire was separated into subdivisions under each of which were several topics. Those responding indicated their judgment of the relative importance of each topic by assigning to it a certain percentage of the time to be devoted to the entire course.

Request was made that the list of titles included in the questionnaire be numbered in order of their importance in teacher training. Responses to this part of the questionnaire gave evidence of thoughtful consideration, and confirmed the data obtained in other ways.

There is doubtless some parallelism between the relative importance of certain topics or elements in the training of teachers and the percentage of time allotted to them by the combined opinion of all these individuals who are devoting their lives to the cause of education. There is, in fact, close correspondence between the materials brought forward in reports formerly made to this society, the elements of content ranking as most important in the returns to the questionnaire, the courses regarded as of chief importance

[1] A digest of a report made to the Society of College Teachers of Education at its 1920 meeting in Cleveland, Ohio, by David Allen Anderson, head of department of education and psychology, Pennsylvania State College.

among the ones listed in the questionnaire, the points of training consistently urged by leading educational writers, and phases of training held as essential by our correspondents while making this study. The topics selected as content for the courses recommended met the following conditions:

1. They were given high rating by at least 80 per cent. of those who responded to the questionnaire.
2. They were each allotted an average of at least 5 per cent. of the time to be devoted to the course of instruction in which they appeared, based on all responses to the questionnaire.
3. In addition to (1) and (2) these topics were singled out as essential in two or more of the other sources upon which this report is based.

The elements of instruction chosen have been grouped into three courses. This grouping is purely arbitrary and subject to revision and rearrangements as seems advisable within the institutions concerned. The consensus of opinion represented in the selection strongly suggests that these topics should find place wherever teacher training is undertaken. Where conditions permit, additional ones should be added until every demand is satisfied.

Course I. An introductory course, informational in character, designed chiefly as a means of orientating prospective teachers in reference to the field of education. It should include the following topics: Education as a social necessity; schools as a means of social progress; educational agencies other than schools; aims, meanings, and function of education; administering public schools; principles governing the organization of school curricula; standardizing school work; social relation of schools; the teaching staff—its qualifications and responsibilities; characteristics of and differences between pupils at successive stages of development; the school a selective agency for society; education as a science; professional training of teachers.

Course II. A theoretical course related to specialized courses in education about the same as a course in general science is related to courses in the special sciences. The group of topics discussed would include: Meaning of education; biological, psychological, and sociological bases; aims; values; psychology of learning; changes in nervous system due to experience; instinct, habit formation; heredity; physical education; health supervision; stages in child development; school hygiene; what thinking means; development of concepts; interest; sensory training; motor education; imagination; mind and body relations.

Course III. A course in school-room procedure. The topics considered would embrace: Scientific classification of pupils; economy in class activity and school room details; functions of the class period; aims in special subjects; selecting, organizing, and presenting subject-matter; avoiding verbalism; effective use of books; use of memory and imagination; questioning; assignments; teaching how to study; motivation and interests; types of learning; tests and measurements; transfer of training, how to improve thinking; individual differences and how to meet them; types of lessons.

In addition to the general recognition of the value attaching to the materials outlined in the above courses, there is next to a universal feeling of need for extension along the lines of directed observation and supervised practise teaching. Participation in the school room activities should increase in keeping with the student's development until full responsibility for procedure is merited. These phases of training vitalize theory and at the same time afford avenues for the development of skill in performance. They contribute reality to the entire project of teacher training. Since it is true that we learn to do by doing but learn to do better by thinking, we should bring the theoretical and practical courses into close relationship. Observation, participation, and practise teaching under guidance should parallel or be a constituent part of all courses in education. Theory should contribute intelligence to practise, and participation in real schoolroom procedure should give point to theory.

DAVID ALLEN ANDERSON
THE PENNSYLVANIA STATE COLLEGE